



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,679	06/20/2003	Brent G. Carman	SRC-012-P	6741

7590 08/23/2004
Stephen R. Chapman
1220 Baypoint Drive
Seneca, SC 29672

EXAMINER

BERGIN, JAMES S

ART UNIT PAPER NUMBER

3641

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,679

Applicant(s)

CARMAN, BRENT G.

Examiner

James S. Bergin

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 7-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 06/20/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1, 2, 4-6 and 15, drawn to a wireless projectile, classified in class 102, subclass 502.
 - II. Claim 3, drawn to an electric circuit, classified in class 361, subclass 232.
 - III. Claim 7, drawn to a system to provide perimeter security to an area, classified in class 89, subclass 1.11.
 - IV. Claims 8-11, drawn to a cartridge adapted to being discharged from a weapon, classified in class 102, subclass 441.
 - V. Claims 12-14, drawn to a charging device, classified in class 102, subclass 293.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because it could conceivably employ an independent transformer rather than the control and amplifier unit of the subcombination. The subcombination has separate utility such as a circuit for a charged riot control lance or baton rather than as a circuit for a wireless projectile.

3. Inventions II and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II has separate utility such as a circuit for a charged riot control lance or baton. See MPEP § 806.05(d).

4. Inventions III and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation. Invention III comprises a perimeter security device with the projectiles being fired by a source of pneumatic power whereas invention IV comprises a projectile encased in a cartridge and being fired from a weapon by an explosive propellant.

5. Inventions IV and V are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention IV has separate utility such as a single wireless projectile for use in a single shot weapon that does not require a circuit system capable of connecting a plurality of cartridges to a power source. See MPEP § 806.05(d).

6. Inventions V and I are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention I has separate utility such as a single wireless projectile for use in a single shot weapon that does not require a

Art Unit: 3641

circuit system capable of connecting a plurality of cartridges to a power source. See MPEP § 806.05(d).

7. Because these inventions are distinct for the reasons given above, the search required for each of Groups 1 – 5 is substantially divergent, and because the inventions have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

8. During a telephone conversation with Stephen R. Chapman on 7/29/2004 a provisional election was made without traverse to prosecute the invention of Group 1, claims 1, 2, 4-6 and 15. Affirmation of this election must be made by applicant in replying to this Office action. Claims 3, 7, 8-11 and 12-14 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Information Disclosure Statement

9. The information disclosure statement filed 6/20/2003 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each non-patent publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. The following non-patent literature documents have not been provided and therefore have not been considered by the examiner at this time:

BERKO, Robert, Ed. "The Merck Manual," 15th Edition (1987) Merck, Sharp, & Dohme. Rahway, NJ. Ch. 258, and
GIANCOLI, Douglas C. "Physics Principles with Applications, 5th Ed. Prentice Hall, Upper Saddle river, NJ. Ch16, 17, 18, and 19.

Specification

10. The disclosure is objected to because of the following informalities: numerous spelling errors have been observed in the specification, (egg. "paten" line 24, page 4). The entire specification should now be reviewed for errors of this nature.

Appropriate correction is required.

Claim Objections

11. Claim 4 is objected to because of the following informalities: in line 20, the typographic error, "***paris***". Appropriate correction is required.

12. Claim 15 is objected to because of the following informalities: in line 2, "***discharge***" should be replaced with discharged. Appropriate correction is required.

Claim Rejections - 35 USC § 112

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 1, 2 and 4-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 9, it is unclear what is meant by "***a cartridge capable of being launched from said cartridge***"? Perhaps it is "said body" that is capable of being launched from said cartridge?

In claim 2, line 19, it is unclear if "***each of two frequencies***" are the same frequencies as the "***carrier frequency***" of line 3 and the "***second frequency***" of line 4? In lines 22 and 23, "***a pair of electrodes***" is unclear because the claim has previously

Art Unit: 3641

only been limited to “**at least one pair of electrodes**” in lines 12 and 13. Which pair of electrodes of a potential plurality of pairs of electrodes is being referred to?

Furthermore, regarding claim 2, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by “such as” and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 2, line 6, recites the broad recitation “**discharges of from 2 to 45 pulses per second**”, and the claim also recites in lines 19 and 20, “**a specified pulse rate of from 2 to 40 pulses per second**” which is the narrower statement of the range/limitation.

In claim 4, in line 21, “**to attach to through the skin of a target individual**” is indefinite because it is unclear if the electrodes are shaped to attach to or through the skin? In line 31, “**a linear distance of by a distance**” is indefinite and the examiner suggests deleting “~~of by a distance~~” to correct this problem; in line 33, it is unclear what element has “**a flat surface**”?

Furthermore, regarding claim 4, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired in the present instance, claim 4 recites the broad recitation “**releases of charges of at least 500 volts**” in lines 5 and 6, and the claim also recites “**discharge of at least 350 volts**”, in line 32, which is the narrower statement of the range/limitation.

In claim 5, line 2, “**from 0.6 4.0 cm**” is indefinite and should perhaps be replaced with 0.6 to 4.0 cm. Appropriate correction is required.

In claim 6, lines 3 and 4, the limitation, “that will not penetrate the exterior skin layer of commercial aircraft”, is indefinite because it is unclear if the claim refers to the exterior skin layer of the external peripheral surface of an aircraft or the exterior skin layer of the internal cabin surface of an aircraft. This is an important distinction because the exterior skin layer of the inside and the outside of an aircraft has completely different properties.

The above section on indefiniteness is not intended to be a complete listing of all the 112 2nd issues in the claims. The applicant should now carefully review the claims for similar issues to those outlined above.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 3641

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 1 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Ragner (US 5,698,815 A).

Regarding claim 1, in as much as the claim can be understood because of the indefiniteness discussed above, Ragner discloses a wireless projectile (Figs. 7A, 7B, 8A, 8B), comprising: an electric circuit (col. 14, lines 30 – 39); capable of being charged by an external power source and further being capable of maintaining said electrical charge and still further of being capable of delivering said electrical charge in the form of disabling, sub-lethal shocks to a target individual; a body capable of being positioned in a casing and forming a cartridge (Figs. 7A, 7B, 8A, 8B), said body capable of being launched from said cartridge by a propellant and further said body being adapted to housing said electric circuit (col. 10, lines 20- 26), and still further said body being shaped and having structures to provide stability in flight (col. 14, lines 60 –67). For further evidence of projectiles having bodies shaped and having structures to provide stability in flight the applicant should consult the cited references to Ranney, III (US 5,737,863 A) and Koehn et al. (US 4,073,280 A).

Regarding claim 15 Ragner discloses a wireless projectile (Figs. 7A, 7B, 8A, 8B), comprising an electric circuit being securely positioned in the body element of the projectile, said electric circuit inherently being detachably connected to an independent charging source of DC power (col. 14, lines 30 – 39). Ragner's circuits are inherently capable of generating at least two electrical frequencies (col. 8, line 54 – column 9, line 15).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claim 2, in as much as the claim can be understood because of the indefiniteness discussed above, is rejected under 35 U.S.C. 103(a) as being unpatentable over Ragner (US 5,698,815 A) in view of Mangolds et al. (US 5,750,918 A).

Ragner discloses a wireless projectile as discussed above. Ragner's projectile has electrodes shaped to penetrate clothing and flesh (Figs. 7A, 7B, 8A, 8B). Ragner's circuit is believed to be capable of being energized by independent source of electrical power of from about 1.5 volts to 15 volts. Ragner's circuit is believed to be capable of delivering discharges of from 2 – 45 pulses per second (column 8, lines 64 67, and column 10, lines 20 – 26), with an initial discharge of up to 8 seconds and at least two subsequent discharges of at least 3 seconds each. Ragner's circuit can produce a disabling shock with a voltage higher than 200 volts (column 14, lines 40 – 50). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have Ragner's circuit produce voltages of about 250 volts to about 400 volts, and about 3 amps to 15 amps and at a pulse rate of 2 to 40 pulses, since it has been held that where the general conditions of a claim are disclosed in the prior art,

Art Unit: 3641

discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Ragner's does not disclose that the projectile produces a carrier frequency of 250 – 500khz and a second frequency of from 10 to 50 hz. It would have been obvious to one having ordinary skill in the art at the time the invention was made to consider using a carrier frequency of 250 – 500khz and a second frequency of from 10 to 50 hz, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Ragner does not disclose a proximity sensor associated with the electrodes and the switch. However Mangolds discloses a proximity sensor (118 in figure 10) for actuating a non-lethal projectile at a defined proximity to a target individual. It would have been obvious, in view of Mangolds et al., to one of ordinary skill in the art at the time that the invention was made to alternatively provide Ragner's projectile with a proximity sensor for actuating the shocking projectile at a defined proximity to a target individual.

19. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ragner (US 5,698,815 A).

In as much as claim 4 can be understood because of its indefiniteness, Ragner discloses a projectile as discussed above. Several of Ragner's projectile embodiments have electrodes shaped to penetrate clothing and flesh (Figs. 7A, 7B, 8A, 8B).

Ragner's circuit can produce a disabling shock with a voltage higher than 200 volts

Art Unit: 3641

(column 14, lines 40 – 50). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have Ragner's circuit produce voltages of at least 500 volts over 3 seconds at 2 millisecond intervals, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Ragner's projectiles of Figs 7A, 7B, 8A, 8B have a flat surface which is adapted to delivering a damaging physical blow, said flat surface then being covered by an energy absorbing pad to reduce but not eliminate the physical trauma. Ragner's projectile at impact still causes bruising around the impact area, such bruising considered to be a damaging physical blow (col. 10, lines 17 – 19).

Regarding the extended length of the electrodes, Ragner's electrodes are believed to extend at least 2 cm. If the applicant disagrees with this opinion, then it would have been an obvious matter of design choice to provide Ragner's projectiles with electrodes extending at least 2 cm, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Ragner's storage means is inherently detachably connected to an independent charging source of DC power (col. 14, lines 30 – 39).

Regarding claim 5, in as much as this can be understood because of its indefiniteness as previously discussed, the diameter of Ragner's projectiles is believed to be about 0.6 to 4.0 cm (Figs 7A, 7B, 8A, 8B). If the applicant disagrees with this

Art Unit: 3641

opinion then it would have been an obvious matter of design choice to size Ragner's projectiles such that they had a diameter in the range of 0.6 to 4.0 cm, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claim 6, in as much as this can be understood because of its indefiniteness as previously discussed, the examiner believes that Ragner's projectiles (Figs 7A, 7B, 8A, 8B) are fabricated from material that will not penetrate the exterior skin layer of a commercial aircraft. If the applicant disagrees with this position then the examiner takes official notice that it is well known to fabricate projectiles from materials that will not penetrate the exterior skin layer of an aircraft so as not to cause a sudden decompression of the aircraft cabin should the projectile hit the cabin wall upon discharge and impact. It would have been obvious, in view of the above official notice, to one of ordinary experience in the art at the time that the invention was made, to fabricate Ragner's projectiles from a material that will not penetrate the exterior skin layer of a commercial aircraft so as to avoid sudden decompression of the cabin should the projectile hit the cabin wall upon discharge and impact. The applicant should refer to the cited references to Downs, JR (US 2003/0159572 A1) and Mizelle (US 4,204,474 A), which disclose projectiles, which are safe to discharge inside an aircraft cabin.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Downs, JR (US 2003/0159572 A1) and Mizelle (US 4,204,474 A)

Art Unit: 3641

disclose projectiles that are safe to discharge inside an aircraft cabin; Smith (US 6,636,412 B2), Claypool (US 5,473,501 A), Shimizu (US 3,523,538 A), Warnagiris et al. (US 6,679,180 B2) and McNulty, Jr. et al. (US 5,831,199 A) disclose relevant stunning projectiles; Ranney, III (US 5,737,863 A) and Koehn et al. (US 4,073,280 A) disclose projectiles having rifling on the exterior surface to provide stability in flight; Chang (US 5,153,365 A) and Rhoads et al. (US 4,120,305 A) are cited to show additional prior art examples of shocking devices which disclose variable or dual frequency shock administration features. Although not applicable prior art under US law, Chang (US 2004/0017178 A1) and Brydges-Price (GB 2 384 042 A) are cited for informational purposes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Bergin whose telephone number is 703 308-8549. The examiner can normally be reached on Monday - Wednesday and Friday, 8.30 - 5.30.

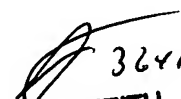
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 703 306-4198. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3641

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James S. Bergin



3641
JACK KEITH
PRIMARY EXAMINER